The Economics of Coking Coal Production in a Climate Change Constrained World

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OUTLINE

- Warren Buffet's Advice to Berkshire Hathaway Shareholders
- Coal Royalties in Alberta, B.C. and Queensland/Australia
- Recent Returns from Coal Royalties
- What May the Medium-Term Future Promise for Global Coking Coal Production?

Warren Buffet's Advice to Berkshire Hathaway Shareholders

- "If you aren't willing to own a stock for ten years, don't even think about owning it for ten minutes." (1996)
- What does the future look like for metallurgical coal production? Bright? Dim? Is this a growth industry? Is it a sunset industry?
- If the latter, why would the people of Alberta want to reincarnate metallurgical coal production "for ten minutes"?

What is a Royalty?

- "the price the resource owner charges developers" Govt of Alberta
- It's the money a government charges a company (on your behalf) for permission (the right) to exploit public resources.
- **Gross royalty**: Typically, a percentage of the gross revenue received from exploiting/developing the owner's property. For coal mining…production (1 million tonnes) times coal price (Cdn $175) times a percentage. A 1% royalty would send $1.75 million to Govt.
- **Net royalty**: This is set on **net revenue** (company revenue after deducting allowable costs)
- **Payout**: This is the term used to describe the point in a project's history where it has recovered its costs. Royalty systems may have pre-payout and post-payout payment structures.

Coal Royalty Rates in Alberta, B.C., and Queensland

Coking Coal Royalty Rates in Alberta and British Columbia		
	1st Tier (pre-payout in Alberta)	2nd Tier (post-payout in Alberta)
Alberta	1% of mine mouth revenue (MMR)	1% of MMR + 13% of net revenue
British Columbia	2% of net current proceeds	13% of net revenue
Mine mouth revenue equals a mine’s gross revenues from sales minus permitted costs and allowances such as transporting coal to a port. Net current proceeds equals gross revenue minus current operating costs (excluding capital costs).		

Coal Royalty Rates, State of Queensland, Australia	
Average price per tonne for period	Rate
Up to and including $100	7%
Over $100 and up to and including $150	First $100: 7% Balance: 12.5%
More than $150	First $100: 7% Next $50: 12.5% Balance: 15%
Prices are in Australian dollars. On June 6, 2021 one Australian dollar was worth 93 cents Canadian.	

Bitumen, Coal, and Alberta's Finances

- Qualifications: Contribution understated…only looking at royalties (not corporate income tax, not personal income tax)
- Bitumen: $4.089 Billion, 2019-2020 fiscal year
- Coal: $ 217 Million, 2008-09 to 2018-19 fiscal years
- "Government is placing a strong focus on creating the necessary conditions for the growth of export coal production. This includes the export of metallurgical coal, which is a necessary component in the production of new steel." (Min. Savage, May 2020)
- Why? Certainly not to generate much revenue.

Positive Speculation About the Future of Coking Coal Production

- Coal Association of Canada
- Coking coal production will increase from 30 million tonnes in 2019 to just over 50 million tonnes in 2050
- An increase of more than 67 percent
- Why? The world needs steel

Much Less Glowing Assessments About the Future of Coking Coal Production

- The Canadian Energy Regulator
- Cdn Coking Coal production will fall to 22 million tonnes by 2050
- A drop of approximately 24 percent
- Why? Due to global actions to reduce greenhouse gas emissions

Much Less Glowing Assessments About the Future of Coking Coal Production

- The International Energy Agency
- Sees Canadian production falling slightly, by 2 million tonnes, from 2018 to 2025
- More worrisome message for global coking coal production is found in the IEA's *World Energy Outlook 2020*
- 2019 to 2030: 936 megatonnes to somewhere between 622 and 764 megatonnes (18 to 34% decline)
- 2019 to 2040: 936 megatonnes to somewhere between 438 and 704 megatonnes (25 to 53% decline)
- Why? Global actions to reduce greenhouse gas emissions <u>and</u> the development of new steelmaking technologies.

Climate Change is Changing the Steelmaking Business

- The World Steel Association
- Steelmaking's significant contribution to GHG emissions
  - In 2020, 2.6 billion tonnes or between 7 and 9 percent of global anthropogenic carbon dioxide emissions
- WSA commits to efficiency improvements (Electric Arc Furnaces) and technological change (such as using hydrogen in the iron ore reduction process)
- Recycling steel through EAFs means that steel may be made with 80 percent less coal than blast furnaces
- Using hydrogen in iron ore reduction <u>completely eliminates</u> the need for coking coal

Will Metallurgical Coal Production Disappear Overnight?

- Of course not… it will continue to be important to steelmaking 20 years from now
- But, according to the IEA and the World Steel Assn it is likely to be less important and less significant – the world will need less metallurgical coal in 2040 and 2050 than it uses today

On Thinking Like an Owner When it Comes to the Eastern Slopes

- AWA sees the Coal Policy Committee's mandate as about the Future of the Eastern Slopes
- Heed Peter Lougheed's advice to "think like an owner" of those lands
- "I think as an owner. When we were in government, I thought as an owner. The people of Alberta are the owner of the resource. Public policy in Alberta should reflect that ownership. We went through a number of years recently where the ownership was subjugated to the wishes of the petroleum industry, who are basically lessees. I'm hoping that will change, and that there will be a reaffirmation by the new Progressive Conservative government of its ownership position."
- AWA hopes your work will be the catalyst for analogous change.